

© EPODOC / EPO

- PN - DE10010538 A 20010906
- PD - 2001-09-06
- PR - DE20001010538 20000303
- OPD - 2000-03-03
- TI - Coating composition having spectral selective properties, useful for the coating of buildings, comprises four different particles having a range of wavelength dependent absorption properties.
- AB - A dirt rejecting coating composition having spectral selective properties comprises a binding agent having water-and dirt rejecting properties and good UV resistance, first flake like particles that are reflective at thermal infrared wavelengths, second particles that reflect visible light, electrically conductive third particles and fourth particles that absorb in the non-visible UV-range. A dirt rejecting coating composition (I) having spectral selective properties comprises: (A) a binding agent and/or binding agent mixture having water-and dirt rejecting properties and good UV resistance with a transparency of at least 30 %, preferably greater than 50% in the region of visible light of 0.35-0.7  $\mu\text{m}$  and at least 20%, preferably greater than 40% in the region of thermal infra-red of 5-100  $\mu\text{m}$ , at least 5-15  $\mu\text{m}$ . (B) first flake like particles that are reflective at thermal infrared wavelengths of 5-100  $\mu\text{m}$ , at least 5-25  $\mu\text{m}$  and have dimensions L(length) $\times$ B(breadth) $\times$ D(thickness), L=5-100 (30-60)  $\mu\text{m}$ , B=5-100 (30-60)  $\mu\text{m}$  and D=0.1-5(0.5-1.5)  $\mu\text{m}$ , and /or first spherical particles that cause back scattering (Mie'sche scattering) at thermal infrared wavelength of 5-100  $\mu\text{m}$ , at least 5-25  $\mu\text{m}$  and have a degree of transmission of at least 20% and are single crystals having an average diameter, d, of  $d = X \mu\text{m} / 2.1(n_{T10} - n_{B10})$  where  $n_{T10}$ =refractive index of the spherical particles at a wavelength of 10  $\mu\text{m}$ ,  $n_{B10}$ =refractive index of the binding agent matrix at X  $\mu\text{m}$  and  $X \geq 10-20$  and/or second spherical particles that are hollow in the dry state and/or are formed of a material, that in the thermal infra-red region of 5-100  $\mu\text{m}$ , at least 5-25  $\mu\text{m}$ , have a degree of transmission of greater than 20(30)% and cause back scattering and/or are reflective and have an average diameter of 2-20  $\mu\text{m}$ . (C) second particles, that in the visible light of 0.35-0.7  $\mu\text{m}$  are reflective and/or cause back scattering and in the thermal infra-red region of 5-100  $\mu\text{m}$ , at least 5-25  $\mu\text{m}$  have a degree of transmission of greater than 20(40)% and are in the form of single crystals and have a diameter, d of  $d = 0.55 \mu\text{m} / 2.1(n_{T0.55} - n_{B0.55})$  where  $n_{T0.55}$ =refractive index of the second particle at a wavelength of 0.55  $\mu\text{m}$ ,  $n_{B0.55}$ =refractive index of the binding agent matrix at a wavelength

of 0.55  $\mu\text{m}$ . and/or polymer pigments, that in the thermal infrared region of 5-100 (8-14)  $\mu\text{m}$  has a degree of transmission of greater than 20(30)% and in the dry state are hollow, whereby the average diameter of the polymer pigment particles are 0.2-2  $\mu\text{m}$ , preferably 0.3-1  $\mu\text{m}$ . (D) third particles, that are electrically conductive and have a low absorption in the thermal infra-red range of 5-25  $\mu\text{m}$  of less than 80(60)% and having an average diameter that is smaller than the wavelength of visible light. (E) fourth particles, that absorb in the non-visible UV-range of 0.2-0.35  $\mu\text{m}$  and have a degree of transmission of greater than 20(30)% in the thermal infra-red range of 5-100  $\mu\text{m}$ , at least 5-25  $\mu\text{m}$ . (F) known additives for coatings, preferably solvent such as water, aromatic solvent, mineral spirits, xylene, toluene, polar solvents such as alcohols, thickening agents, thixotropic agents, defoaming agents, dispersing agents for the particles and additives for reducing the film forming temperature, such as glycols or benzene. An Independent claim is included for a process for the application of the composition (I) containing the first flake like particles by use of an electric and/or magnetic field during or after application of the composition onto a substrate.

IN - HUGO GERD (DE)

PA - HUGO GERD (DE)

EC - C09D7/12S ; C09D5/00 ; C09D5/24 ; G02B5/20V

IC - C09D5/32 ; C09D5/38 ; C09D133/00 ; C09D5/24 ; C08K3/26 ; C08J3/28 ; G02B1/00 ; G02B5/00

© WPI / DERWENT

TI - Coating composition having spectral selective properties, useful for the coating of buildings, comprises four different particles having a range of wavelength dependent absorption properties.

PR - DE20001010538 20000303

PN - DE10010538 A1 20010906 DW200201 C09D5/32 012pp

PA - (HUGO-I) HUGO G

IC - C08J3/28 ; C08K3/26 ; C09D5/24 ; C09D5/32 ; C09D5/38 ; C09D133/00 ; G02B1/00 ; G02B5/00

IN - HUGO G

AB - DE10010538 NOVELTY - A dirt rejecting coating composition having spectral selective properties comprises a binding agent having water-and dirt rejecting properties and good UV resistance, first flake like particles that are reflective at thermal infrared wavelengths, second particles that reflect visible light, electrically conductive third particles and fourth particles that absorb in the non-visible UV-range.